IN THE CLAIMS

Please cancel Claims 9, 10, 15, and 16 without prejudice to or disclaimer of the subject matter recited therein.

Please amend Claims 1-8, 11, 13, 14, and 17-20 as follows.

1. (Currently Amended) An image processing apparatus comprising:

an input unit configured to input image data including image components;

an image processor configured to process the input image data;

a generating unit configured to generate plane mesh image data representing a plane mesh image having equally spaced grid lines and transform the plane mesh image data by changing the space or tilt angle of the grid lines according to a distortion presented in the input image data or the processing performed by the image processor; and

an adding unit configured to add the transformed mesh image data ~~generated by the generating unit~~ to the image data ~~input~~ processed by the ~~input unit as one of the image components~~ image processor.

2. (Currently Amended) The image processing apparatus according to claim 1, ~~further comprising a processing unit configured to process the image data input by the input unit, and wherein the generating unit generates mesh image data transformed according to how the processing unit processes the image data~~ wherein the distortion occurs during capturing an image to obtain the image data.

3. (Currently Amended) The image processing apparatus according to claim 1, wherein the generating unit ~~generates mesh image data transformed~~ transforms the plane mesh image data according to attribute information [[of]] included in the input image data ~~input by the input unit~~.

4. (Currently Amended) The image processing apparatus according to claim 1, wherein the generating unit ~~generates~~ transforms the plane mesh image data ~~transformed~~ according to information relating to an optical system that captures the image data.

5. (Currently Amended) The image processing apparatus according to claim 4, wherein the generating unit ~~generates~~ transforms the plane mesh image data ~~transformed~~ according to information on a bulge aberration of the optical system.

6. (Currently Amended) The image processing apparatus according to claim 4, wherein the generating unit ~~generates~~ transforms the plane mesh image data ~~transformed~~ according to information on a zoom magnification of the optical system.

7. (Currently Amended) The image processing apparatus according to claim 6, wherein the generating unit generates the plane mesh image data having a large mesh size when the image data has been captured on a telescopic side of the optical system and generates the plane mesh image data having a small mesh size when the image data has been captured on a wide-angle side of the optical system.

8 (Currently Amended) The image processing apparatus according to claim 4, further comprising a sensor that detects a tilt of the optical system, and wherein the generating unit ~~generates~~ transforms the plane mesh image data ~~transformed~~ according to a tilt of the optical system.

9-10. (Canceled)

11. (Currently Amended) An image processing apparatus comprising:

an input unit configured to input image data comprising image components;

an image processor configured to process the input image data;

a transforming unit configured to transform an image based on the image data input by the input unit;

a generating unit configured to generate plane mesh image data representing a plane mesh image having equally spaced grid lines and transform the plane mesh image data by changing space or tilt angle of the grid lines according to a distortion presented in the input image data or the processing performed by the image processor which is transformed corresponding to the image transformed by the transforming unit;

an adding unit configured to add the transformed plane mesh image data generated by the generating unit to the image data ~~corresponding to the image~~ transformed by the transforming unit ~~as one of the image components~~; and

a recording unit configured to record onto a storage medium, the image data in which the mesh image data is added.

12. (Canceled)

13. (Currently Amended) The image processing apparatus according to claim 11, wherein the generating unit ~~generates mesh image data transformed~~ transforms the plane mesh image data according to attribute information [[of]] included in the input image data ~~input by the input unit~~.

14. (Currently Amended) The image processing apparatus according to claim 11, wherein the generating unit ~~generates~~ transforms the plane mesh image data ~~transformed~~ according to information relating to an optical system that captures the image data.

15. (Canceled)

16. (Canceled)

17. (Currently Amended) An image processing method, comprising:

an input step of inputting image data including image components;

a processing step of processing the input image data;

a generating step of generating plane mesh image data representing a plane mesh image having equally spaced grid lines and transforming the plane mesh image data by changing the space or tilt angle of the grid lines according to a distortion presented in the input image data or the processing performed by the image processing step; and

an adding step of adding the transformed mesh image data ~~generated in the~~

~~generating step~~ to the image data ~~input~~ processed by the processing step ~~by the input unit as one of the image components~~.

18. (Currently Amended) An image processing method, comprising:

an input step of inputting image data comprising image components;

an image processing step of processing the input image data;

a transforming step of transforming an image based on the image data input by the input unit;

a generating step of generating plane mesh image data representing a plane mesh image having equally spaced grid lines and transform the plane mesh image data by changing the space or tilt angle of the grid lines according to a distortion presented in the input image data or the processing performed by the image processing step or ~~which is transformed~~ corresponding to the input image data transformed in the transforming step; and

a recording step of recording the input image data and the transformed plane mesh image data onto a storage medium.

19. (Currently Amended) A computer program stored on a computer-readable medium for causing a computer to execute the steps of:

inputting image data including image components;

processing the input image data;

generating plane mesh image data representing a plane mesh image having equally spaced grid lines and transform the plane mesh image data by changing the space or tilt

angle of the grid lines according to a distortion presented in the input image data or the processing performed by the image processor; and

adding the transformed mesh image data ~~generated in the generating step~~ to the ~~input~~ image data processed by the processing step ~~as one of the image components~~.

20. (Currently Amended) A computer-readable storage medium storing a computer program for causing a computer to execute the steps of:

inputting image data including image components;

processing the input image data;

generating plane mesh image data representing a plane mesh image having equally spaced grid lines and transform the plane mesh image data by changing the space or tilt angle of the grid lines according to a distortion presented in the input image data or the processing performed by the image processor; and

adding the transformed mesh image data ~~generated in the generating step~~ to the ~~input~~ image data processed by the ~~as one of the~~ image processing step ~~components~~.